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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,042	10/21/2003	Valentino Campagnolo	CAM3-PT015.1	3495

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EXAMINER	
JOHNSON, VICKY A	

ART UNIT	PAPER NUMBER
3682	

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/690,042	CAMPAGNOLO ET AL.	
	Examiner	Art Unit	
	Vicky A. Johnson	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-11,13-16 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 5-11, 13-16, and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 25, 2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 5-10, and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US 6,676,549) in view of Cote et al (US 6,199,021).

Fukuda teaches a process for controlling when gear shifting occurs in a transmission of a cycle having at least one gear sprocket coaxially mounted to hub of a rear wheel of the cycle and a transmission chain engaged with the sprocket, the process comprising the steps of: providing a sensor (18) having a marker having angular positions corresponding to no, forward, and rearward movement of the chain

(col. 5 lines 10-60); and selectively activating said sensor according to a command request to initiate a shift (col. 5 lines 54-57, it is an inherent feature that the controller would activate the sensor according to a command request to initiate a shift, since the sensor data is used to evaluate the rotation of the sprockets to determine if and when to activate the derailleur, col. 5 lines 14-25).

Fukada does not disclose the sensor detecting a marker that rotates about an axis parallel to an axis of rotation of the at least one sprocket.

Cote et al teaches the use of a sensor (22) detecting a marker (29a-e) that rotates about an axis parallel to an axis of rotation of the at least one sprocket, (see Fig 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Fukada to include a sensor as taught by Cote et al in order to reduce the size and make it more compact (col. 1 lines 40-42).

Re claim 2, Fukuda discloses the steps of preventing a shift when said sensor detects that said gear sprocket is not in the angular position in which shifting is facilitated (col. 5 lines 10-20) and allowing a shift when said sensor detects that said gear sprocket is said angular position in which shifting is facilitated (col. 5 lines 20-25).

Re claim 5, Fukuda discloses a system for controlling when gear shifting occurs in the transmission of a cycle, the system comprising; at least one gear sprocket having at least one angular position in which shifting is facilitated (col. 6 line 65-col. 7 line 7); at least one sensor (18) for detecting the angular position in which shifting is facilitated and generating a corresponding signal; and a control unit (276) for activating said sensor

according to a command request, and Cote et al shows and renders obvious the use of a sensor (22) detecting a marker (29a-e) that rotates about an axis parallel to an axis of rotation of the at least one sprocket, the marker having angular positions corresponding to no, forward, and rearward movement of the chain (see Fig 2).

Re claim 6, Fukuda discloses a transmission element (chain), wherein said control unit (276) is configured for controlling, in response to the corresponding signal, a change in position of the transmission element with respect to the at least one gear sprocket when the sensor detects the angular position in which shifting is facilitated (col. 2 lines 11-20).

Re claim 7, Fukuda discloses the at least one gear sprocket is associated to a crank axle of the cycle (col. 1 lines 9-22), and wherein said at least one facilitating angular position corresponds to at least one set of teeth of said gear sprocket (col. 6 line 65-col. 7 line 7).

Re claim 8, Fukuda discloses at least one sensor (18) is associated to one of a crank axle (col. 1 lines 9-22) of said cycle and a tensioning element (500).

Re claim 9, Fukuda discloses a method for controlling gear shifting on a bicycle having a plurality of sprockets (28) with at least one sprocket including teeth with a sequence of differentiated geometries which define facilitating portions (col. 6 line 65-col. 7 line 7) on said gear sprocket, the teeth carrying a transmission element (200), the method comprising the steps of: a) detecting a processing signal representative of an affirmative shift command (col. 2 lines 11-25); b) detecting an angular position of the at least one gear sprocket in response to the processing signal (col. 2 lines 11-25) , the

marker having angular positions corresponding to no, forward, and rearward movement of the chain (col. 5 lines 10-60); c) comparing the angular position of the at least one gear to the angular position of the facilitating portions of the at least one gear (col. 6 line 65-col. 7 line 7); d) shifting the transmission element from the at least one gear sprocket to another gear sprocket if the detected angular position of the at least one gear corresponds to one of the facilitating portions (col. 5 lines 20-25), wherein steps (b)-(d) are performed only after step (a) (it is an inherent feature that the steps b-d will occur after an affirmative shift command).

Re claim 10, it is inherent that the steps (a)–(d) will be repetitively performed at every shift.

Re claims 13-16, Cote et al discloses a chain tensioner (19) that engages the chain and the tensioner comprises the sensor (22).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US 6,676,549) in view of Cote et al (US 6,199,021) as applied to claims 1, 2, 5-10, and 13-16 above, and further in view of Fey et al (5,483,137).

Fukuda discloses a system for controlling gear shifting in a transmission of a cycle comprising at least one gear wheel (28) on which is engaged a transmission

element (200) that performs transmission of motion as a result of its advance in a pre-determined direction; the gear shifting being carried out by changing the position of engagement of said transmission element (200) with respect to said at least one gear wheel (28), wherein said at least one gear wheel has at least one given angular position in which the shifting of said element for transmitting motion is facilitated (col. 6 line 65-col. 7 line 7), said system comprising: at least one sensor (18) having a marker having angular positions corresponding to no, forward, and rearward movement of the chain (col. 5 lines 10-60) for detecting the position of said at least one gear wheel (28) for generating a respective signal; a control unit (276) for controlling, starting from said respective signal, the change of the position of said element for transmitting motion (col. 2 lines 19-25); and said control unit being configured for preventing shifting of said at least one gear wheel when the gear wheel is not in an angular position corresponding to said at least one given angular position, and then allowing change of position of said transmission element when said at least one gear wheel is rotated to a next angular position corresponding to said at least one given angular position (col. 5 lines 10-25) and Cote et al shows and renders obvious the use of a sensor (22) detecting a marker (29a-e) that rotates about an axis parallel to an axis of rotation of the at least one sprocket (see Fig 2).

Fukuda does not disclose at least one switch for selective activation of said at least one sensor according to a command for changing the position of said element for transmitting motion with respect to said at least one gear wheel.

Fey et al teaches the use of a switch (30a or 30b) to initiate the shifting of the chain to a higher or lower gear) for selective activation of said at least one sensor (the sensor detects the position and sends a signal to the monitoring unit 40) according to a command for changing the position of said element for transmitting motion with respect to said at least one gear wheel (col. 2 lines 7-54).

It would have been obvious to one having ordinary skill in the art at he time the invention was made to modify the device of Fukuda to include a switch as taught by Fey et al in order to manually input the desired gear.

Response to Arguments

Some further comments regarding the applicant's remarks are deemed appropriate.

The applicant argues that the combination of the Fukada reference and the Cote et al reference fails to meet the limitations of the claims because the Cote et al reference does not teach detecting the direction of the chain movement. However, the Fukada reference teaches the use of an additional sensor unit to determine the direction of the rotation of the sprockets in order to determine if the rider is pedaling and/or the direction of pedaling in order to facilitate the shifting of the derailleur. The Cote et al teaches the use of a sensor (22) detecting a marker (29a-e) that rotates about an axis parallel to an axis of rotation of the at least one sprocket, (see Fig 2).

It is also argued that the above references fail to meet the limitations of the claims because neither reference teaches, "means for determining if the movement is in a forward direction of travel". As stated above the Fukada reference teaches the use of

two sensors (308A ad 308B), to determine the direction or travel and if the rider is pedaling (col. 5 lines 10-60), and the change of the position of said element for transmitting motion (col. 2 lines 19-25). The Fey et al reference teaches the use of a switch (30a or 30b) to initiate the shifting of the chain to a higher or lower gear) for selective activation of said at least one sensor (the sensor detects the position and sends a signal to the monitoring unit 40) according to a command for changing the position of said element for transmitting motion with respect to said at least one gear wheel (col. 2 lines 7-54).

The applicant's remarks have been accorded due consideration, however, they are not deemed fully persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vicky A. Johnson whose telephone number is (571) 272-7106. The examiner can normally be reached on Monday-Friday (7:00a-3:30p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6217. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vicky A. Johnson
Primary Examiner
Art Unit 3682

3/24/06